84-854 (2)

No.

Office-Supreme Court, U.S.
FILED
NOV 26 1984
ALEXANDER L. STEVAS
CLERK

In the

Supreme Court of the United States

OCTOBER TERM, 1984

ECOS ELECTRONICS CORPORATION,

Petitioner,

vs.

UNDERWRITERS LABORATORIES, INC.,

Respondent.

APPENDIX TO THE PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT

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IN THE
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No.

ECOS ELECTRONICS CORPORATION,
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UNITED STATES COURT OF APPEALS

FOR THE SEVENTH CIRCUIT

No. 83-2734

ECOS ELECTRONICS CORPORATION

Plaintiff-Appellant

v.

UNDERWRITERS LABORATORIES, INC.,

Defendant-Appellee

Appeal from the United States District Court for the
Northern District of Illinois, Eastern Division
No. 83 C 3939—**John F. Grady**, Judge.

ARGUED APRIL 4, 1984—DECIDED AUGUST 29, 1984

BEFORE PELL and ESCHBACH, Circuit Judges, and JAMESON, Senior District Judge*

PELL, Circuit Judge. Plaintiff ECOS Electronics Corporation (ECOS) filed an antitrust suit against Underwriters Laboratories (UL) and a number of other defendants. The district court granted summary judgment in favor of UL and found no just reason to delay entry of judgment for UL pursuant to rule 54(b) of the Federal Rules of Civil Procedure. While the case proceeds in the district court against the remaining defendants, ECOS appeals the district court's grant of summary judgment to UL.

I Facts

ECOS manufactures a device known as an outlet circuit tester, which in essence serves to test the condition of an electrical outlet. A similar device is manufactured by Daniel Woodhead Company (Woodhead), which is a defendant in plaintiff's suit but not involved in this appeal. ECOS claims that its tester is technologically superior to the Woodhead tester. Unfortunately for ECOS, the superior technology carries with it a high price tag. As a consequence consumers will only purchase an ECOS tester if it appears that the advanced technology is necessary. Consumers, apparently, have not found the high price of an ECOS tester justified by its superior performance and have instead purchased the inferior, albeit cheaper, Woodhead tester. ECOS blamed its failue to capture the market for testers on UL, among others, and brought suit alleging an unreasonable restraint of trade and monopolization. To understand ECOS's claim, which appears unique in the annals of antitrust litigation, it is first necessary to examine the functioning of UL and its

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* William J. Jameson, Senior District Judge for the District of Montana, sitting by designation.

effect on the circuit tester market.

UL is an independent, not-for-profit corporation. UL investigates devices such as circuit testers with respect to hazards affecting life and property. UL is managed by 18 trustees elected from its membership, none of whom may be associated with a manufacturer or vendor of products investigated by UL. The purpose of UL's investigation of a product is only to determine whether the product meets the minimum safety level specified by UL's standards. UL does not assess the relative quality of products, nor does it compare the features found on competing products.

UL establishes standards for the various products it tests. When a manufacturer submits a product that is not covered by an existing standard, UL engineers develop a new standard. The standard will be revised as additional products are submitted. After review and comment by interested persons, UL publishes the standard in a document available to the public. UL also submits standards to the American National Standards Institute (ANSI), which acts as a clearinghouse for organizations developing standards. Products that meet UL's standard are listed by UL and may carry a UL designation on them.

ECOS claims that its inability to compete successfully in the circuit tester market stems from UL's development of a standard approving Woodhead testers and other inexpensive testers. In 1964 Woodhead submitted a circuit tester to UL's Chicago office. The Woodhead tester was a simple device that could be plugged directly into an electrical outlet. UL refused to list the Woodhead tester because it gave incorrect indications of the conditions in the circuit. In 1972 Woodhead submitted a modified version of its circuit tester, which UL approved although UL engineers were aware that the tester could not detect all wiring conditions. After consultation between UL's Chicago, Illinois and Melville, New York offices, UL decided to list Woodhead-type testers provided that the manufacturers disclosed the limited ability of the

tester. Woodhead and Harvey Hubbell, Inc., which manufactured a Woodhead-type tester, agreed to provide disclosures with their testers.

ECOS complained to UL about the standard set for testers, UL Standard 1436, and claimed that Woodhead-type testers did not work and should not be listed. UL considered ECOS's comments, but declined to change the standard as UL felt that Woodhead-type testers were useful despite their limitations. UL expressed a willingness to investigate ECOS testers, but ECOS declined to submit any for investigation. ECOS claimed in its complaint that Standard 1346 by its terms precluded listing an ECOS tester as it drew more current than allowed by the standard. Documents submitted by UL in support of its motion for summary judgment demonstrated that UL informed ECOS that UL was willing to consider listing an ECOS tester despite the variation from the standard. UL explained that a complex tester, such as ECOS claimed to manufacture, would be considered outside the scope of the standard and hence not bound by the standard's limits. UL also explained that the standard would not be applied if the product met the goal of the standard, although not meeting all of the requirements of the standard. The district court found that UL established ECOS's failure to submit its tester. While ECOS claims that the court erred in this finding, a claim that is without merit, it also claims that its failure to submit a tester is irrelevant as its claim rests on UL's listing of Woodhead testers, not on refusal to list ECOS testers.

II The Lawsuit

ECOS filed suit seeking damages and injunctive relief under the Clayton Act, 15 U.S.C. §§ 15, 26, claiming that UL and the other defendants were guilty of conspiring to restrain competition in violation of the Sherman Act, 15 U.S.C. § 1. ECOS also alleged that Woodhead was guilty of monopolization in violation of 15 U.S.C. § 2. ECOS's claim against UL can be summarized as follows: By listing Woodhead testers UL

convinced consumers that these testers were adequate for testing circuits and that the sophisticated technology employed by ECOS was superfluous. Consumers buy the cheapest UL approved tester, so by listing Woodhead testers UL and Woodhead conspired "to imbed into the outlet circuit tester market technically inferior outlet circuit testers." According to ECOS, the UL listing allows Woodhead testers to gain a competitive advantage over more sophisticated equipment and deprives manufacturers of sophisticated testers "of an unfettered opportunity to offer their product in the market and to obtain the benefit of lower costs resulting from economies of scale." ECOS explicitly claims that obtaining a UL listing for its testers would not solve the problem as consumers will still purchase the cheaper Woodhead tester.

The district court granted summary judgment[1] for UL, holding in a one-paragraph opinion that: "The crux of plaintiff's argument is that it produced a superior product and that only its product should qualify for UL listing. Plaintiff's alleged injury results from the claim that it was forced to compete with inferior products. The actions plaintiff complains of, however, are not antitrust violations."

III Application of Antitrust Laws to Standard Making

Plaintiff is not the first company to complain that the activities of standard-making organizations such as

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[1] Although Judge Grady denominated his ruling as a grant of summary judgment, he found this portion of ECOS's complaint insufficient on its face. The distinction between summary judgment and dismissal for failure to state a claim is not determinative of the outcome of this case, however, and with the exception of ECOS's failure to request a UL listing, we will rely on the complaint.

UL violate the antitrust laws. However, ECOS is the first to make the claim that approval of a competitor's products by such an organization, without more, constitutes an illegal restraint of trade. The best that can be said of this argument is that it is novel. An examination of the purpose of the antitrust laws will demonstrate that plaintiff's claim would seem to be a poorly disguised attempt to use these laws to stifle competition.

Section I of the Sherman Act makes illegal: "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade." Of course, the Act has not been read literally to condem "every" contract that incidentally restrains trade, rather the standard of reasonableness has been adopted to judge the lawfulness of the restraint. United States v. Topco Associates, 405 U.S. 596 (1972); Standard Oil Co. v. United States, 221 U.S. 1, 66 (1911). It is clear that "Congress did not intend to prohibit all contracts, nor even all contracts that might in some insignificant degree or attenuated sense restrain trade or competition." 405 U.S. at 606. The antitrust laws are not "panacea[s] for all business affronts which seem to fit nowhere else." Scanton Construction Co. v. Litton Industries Leasing Corp., 494 F.2d 778, 783 (5th Cir. 1974), cert. denied, 419 U.S. 1105 (1975); Sitkin Smelting & Refining Co. v. FMC, 575 F.2d 440 (3d Cir. 1978), cert. denied, 439 U.S. 866.

To state a claim, then, ECOS must allege anticompetitive conduct and injury resulting from that conduct. Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477 (1977). It is not enough, however, to assert sweeping conclusions of law, as ECOS has done here. Frederiksen v. Poloway, 637 F.2d 1147 (7th Cir. 1981), cert. denied, 451 U.S. 1017. Claiming that conduct is anticompetitive and illegal does not make it so. To state a claim against a standard-making organization such as UL "plaintiff must show either that it was barred from obtaining approval of its products on a discriminatory basis from its competitors, or that the conduct as a whole was manifestly anticompetitive and

unreasonable." Eliason Corp. v. National Sanitation Foundation, 614 F.2d 126, 129 (6th Cir. 1980), cert. denied, 449 U.S. 826. A brief examination of the cases ECOS relies upon in its attempt to show the anticompetitive nature of UL's conduct will reveal how wide of the mark ECOS is.

In both Radiant Burners v. Peoples Gas Light and Coke Company, 364 U.S. 656 (1961), and American Society of Mechanical Engineers, Inc. v. Hydrolevel Corporation, 456 U.S. 556 (1982), plaintiffs complained that they had been denied approval by a standard-making organization and that the purpose and effect of this denial was to exclude them from the market as consumers would not, or could not, purchase products that had not been approved. In both cases the Court recognized that the power of a standard-making organization can be abused when it is used to exclude competitors from a market by denying them the needed stamp of approval. ECOS, however, did not request a UL listing and now disclaims any interest in obtaining UL's stamp of approval. In essence the caliginous claim of ECOS emerges as a desire that its competitors not be listed by UL.

ECOS also relies upon Fashion Orginators' Guild of America v. FTC, 312 U.S. 457 (1941), Associated Press v. United States, 326 U.S. 1 (1945), and United States v. Realty Multi-List, Inc., 629 F.2d 1351 (5th Cir. 1980), none of which supports ECOS's claim. In Fashion Orginators' Guild of America the Guild organized a boycott of retailers who dealt with the Guild's "style pirate" competitors. This conduct was clearly anticompetitive—in fact that was the expressed intention of the Guild—and the only question was whether it was justified by the "immoral" and "tortious" nature of "pirates'" conduct. The Court held that the allegedly tortious nature of the competition did not justify the Guild's boycott. Similarly, in Associated Press the By-Laws of AP, which prohibited members from dealing with non-members and prohibited the admission to membership of a competitor of a member, were found to be anticompetitive. Similar conduct was

condemned in Realty Milti-List. ECOS has not alleged any boycott of its products other than by consumers dissuaded from purchasing ECOS testers by their high price.

ECOS's claim, although couched in terms of deprivation of an "unfettered opportunity" to sell its product, is clearly directed toward lessening competition. ECOS is not claiming that UL has excluded ECOS from the circuit tester market by denying ECOS a UL listing, but instead claiming that UL increases consumer preference for low cost testers by certifying them as safe. ECOS seeks to avoid the fetters of price competition by claiming that consumers are injured when they choose inferior testers because of the price. A similar argument was raised in National Society of Professional Engineers v. United States, 435 U.S. 679 (1978), in defense of the Society's refusal to allow members to compete for clients on the basis of price. The Court rejected the claim, finding it "nothing less than a frontal assault on the basic policy of the Sherman Act." 435 U.S. at 695. ECOS's attempt to use the antitrust laws as a means of stifling price competition is equally antithetical to the goals of the Sherman Act. ECOS may make its claims concerning the desirability of its testers known to consumers through advertising, but if that fails ECOS may not indirectly force Woodhead to raise its prices by forcing UL to raise its standards. The antitrust laws cannot be used "to require businesses to price their products at unreasonably high prices (which penalize the consumer) so that less efficient competitors can stay in business." Hanson v. Shell Oil Co., 541 F.2d 1352, 1358-59 (9th Cir. 1976), cert. denied, 429 U.S. 1074 (1977).

The dealings between ECOS and UL make it clear that ECOS wished not only to deny its competitors UL listings, but also to obtain a standard that only ECOS could meet. Use of the antitrust laws for this purpose cannot be countenanced. Moreover, even to accept a less drastic reading of ECOS's position and assume that ECOS merely wished that no tester be given a UL listing would be to eliminate all standard-making organiza-

tions. This was not the intended effect of the antitrust laws.

> An association formed to foster high standards, to mitigate evils in trade existing through lack of knowledge or information, and to encourage fair competitive opportunities is not to be condemned as an undue restraint of interstate commerce in violation of the Sherman Act merely because it may effect a change in the market conditions.

Roofire Alarm Co. v. Royal Indemnity Co., 202 F.Supp. 166, 169 (E.D. Tenn. 1962), aff'd, 313 F.2d 635 (6th Cir.), cert. denied, 373 U.S. 949 (1963).

We can accept ECOS's claim that a UL listing makes a Woodhead tester more attractive to consumers without accepting the claim that the listing unreasonably restrains competition. The purpose of UL is to affect competition by providing consumers with information concerning the safety of various products. Eliminating market imperfection by providing information to consumers, however, is not an illegal restraint of competition. That ECOS does not agree with UL's assessment of Woodhead testers is irrelevant. ECOS, as we have noted, may make its beliefs known through advertising, but ECOS may not forbid UL from making its belief in the safety of Woodhead testers equally known to consumers.

ECOS's complaint does not state a claim under the antitrust laws. Accordingly, we need not consider the other arguments raised by the parties. The judgment of the district court is AFFIRMED.

A true Copy:

Teste:

_____

Clerk of the United States
Court of Appeals for the Seventh
Circuit

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

ECOS ELECTRONICS CORPORATION	)	
Plaintiff,	)	
v.	)	No: 81 C 3939
DANIEL WOODHEAD CO., et al.,	)	
Defendants.	)	

ORDER

Plaintiff alleges that defendant Underwriters Laboratories ("UL") "participated in an expansive conspiracy, illicit agreement and concert of action with other defendants and others to imbed into the outlet circuit tester market technically inferior outlet circuit testers" and that this conspiracy "has resulted and will continue to result in an unreasonable restraint on the interstate commerce in the sale of outlet circuit testers, and in particular, has and will continue to injure plaintiff because of the impact of that illegal restraint on plaintiff's ability to participate in the circuit tester market." Plaintiff's Memorandum in Opposition to UL's

Motion to Dismiss Second Amended Complaint or in the Alternative for Summary Judgment at 5.

Defendant has filed a motion to dismiss this complaint for failure to state a claim. Numerous documents and affidavits have been submitted in support of and in opposition to this motion to dismiss, therefore we must treat this as a motion for summary judgment. See Fed. R. Civ. P. 12(b)(6).

We agree with defendant. Plaintiff has not alleged facts which would establish an antitrust claim under § 1 of the Sherman Act against defendant UL. The crux of plaintiff's argument is that it produced a superior product and that only its proudct should qualify for UL listing. Plaintiff's alleged injury results from the claim that it was forced to compete with inferior products. The actions plaintiff complains of, however, are not antitrust violations. The antitrust laws were designed to foster competition by ensuring that everyone had a chance to compete in the market place without the imposition of any artificial barriers. See e.g. Northern Pacific Railway Co. v. U.S., 356 U.S. 1 (1958). The antitrust laws were not created to police the quality of

products placed into the stream of competition, nor to ensure that one would only have to compete with products of the same quality. The market itself will determine whether products are too inferior to satisfy the public's needs. Therefore, we hold that plaintiff has not stated an antitrust claim against defendant UL.

We also hold that plaintiff has failed to establish an antitrust violation or injury based upon its inability to obtain a UL listing. Plaintiff admits that it never submitted its product for testing to UL; but claims that it would have been futile to do so because its product did not fit within UL's published safety guidelines. Defendant UL has stated that it informed Ecos' representatives that its product could qualify for listing even though it did not comply with all of the standards established by UL - if the proudct should otherwise satisfy the safety performance requirements. See Affidavit of C.R. Barthoff. Therefore, plaintiff is not in a position to establish that it would have been denied a UL listing.

We grant defendant UL's motion for summary judgment on Count I. We decline to exercise pendant

party jurisdiction over defendant UL on the remaining state law claims. Moore v. County of Alameda, 411 U.S. 693 (1973). See Fritzsche v. Village of Lakemoore, No. 82 C 5623, mem. op. at 13 (N.D. Ill. July 28, 1983); see also Eklund v. Hardiman, 426 F.Supp. 941, 943 (N.D. Ill. 1981) (holding that the exercise of pendant party jurisdiction is a matter solely within the court's discretion). Therefore, defendant UL is dismissed as a defendant in this action.

DATED: July 29, 1983

ENTER: Signed by John T. Grady
United States District Judge

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

ECOS ELECTRONICS CORPORATION	)	
Plaintiff,	)	
v.	)	No. 81 C 3939
DANIEL WOODHEAD CO., et al.,	)	
Defendants.	)	

JUDGMENT ORDER

This cause came to be heard on the motion of defendant Underwriters Laboratories to dismiss the complaint filed against it (taken as a motion for summary judgment), and the court having considered the pleadings in the action, and having found that there is no genuine issue of material fact to be tried, and having concluded that said defendant is entitled to a judgment as a matter of law, it is hereby

ORDERED AND ADJUDGED that the motion of defendant Underwriters Laboratories for summary judgment is in all respects granted, and judgment is

entered herein in favor of said defendant and against the plaintiff.

DATED: July 29, 1983

ENTER: Signed by John T. Grady
United States District Judge

MINUTE ORDER

Name of Presiding Judge, Honorable
John F. Grady

Cause No. 81 C 3939
Date: August 31, 1983

Cause: ECOS ELECTRONICS CORPORATION v. DANIEL WOODHEAD

COMPANY, et al

Brief Order Statement of Motion: Motion to Modify

The rules of this court require counsel to furnish the names of all parties entitled to notice of the entry of an order and the names and addresses of their attorneys. Please do this immediately below (separate lists may be appended).

Names & Addresses of moving counsel: James P. Chapman & Associates, Ltd. 33 N. Dearborn St., Suite 930, Chicago, Illinois 60202

representing: plaintiff

Names & Addresses of opposing counsel entitled to notice & names of parties they represent: See attached service list

On motion of plaintiff the judgment order of July 29, 1983, is hereby modified as follows. After the first sentence add the following: "Further, the Court finds that there is no just reason for delay in the enforcement or appeal of the judgement"

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

ECOS ELECTRONICS CORPORATION, an Illinois corporation,	)	
plaintiff,	)	
v.	)	No. 81 C 3939
DANIEL WOODHEAD COMPANY, ANTIONAL JURY TRIAL DEMANDED FIRE PROTECTION ASSOCIATIONM MONSANTO COMPANY, UNDERWRITERS LABORATORIES, AMERICAN NATIONAL STANDARDS INSTITUTE, NATIONAL SAFETY COUNCIL, ALAN REED and ROBERT WEST,	)	
Defendants.	)	

COMPLAINT

Plaintiffs, by their attorneys, complain of the defendants as follows:

INTRODUCTION

1. Plaintiff, ECOS Electronics Corporation, alleges that various individuals and corporations, including Daniel Woodhead, Inc., its primary competitor in the market for grounding path testers, conspired with

the National Fire Protection Association, Monsanto Company, Underwriters Laboratories, American National Standards Institute, National Safety Council, Alan Reed, Robert West, and other persons, companies and entitites unknown to plaintiff at this time, for the purpose of, and with the effect of eliminating the primary product of ECOS from the market. This conspiracy, which is continuing in nature, was and is being effectuated by promulgating misleading and irrational safety standards and/or codes and other inappropriate material under the auspices of the National Fire Protection Association, ANSI, UL, and other voluntary safety organizations. These safety standards effectively have required the use of the Daniel Woodhead products while excluding the use of ECOS products.

JURISDICTION AND VENUE

2. This complaint is filed and the jurisdiction of this Court is invoked in this action instituted against the defendants:

(a) under Sections 4 and 16 of the Clayton Act, as amended, 15 U.S.C. §§15 and 26, and 28 U.S.C. §1337 for violations of:

(i) Section 1 of the Sherman Act, 15 U.S.C. §1,

(ii) Section 2 of the Sherman Act, 15 U.S.C. §2.

(b) under the Court's pendent jurisdictional powers, because the federal and state claims are derived from the same operative facts, and should be tried in a single proceeding, for

(i) violations of Illinois Revised Statute, ch. 38, Sec. 60-1 et. seq., commonly known as the Illinois Antitrust Act,

(ii) the plaintiff's claim of trade libel (also described as "injurious falsehood" and "disparagement of property"), and

(iii) the plaintiff's claim of tortuous interference with business.

3. Venue exists by virtue of Sections 4 and 12 of the Clayton Act, as amended, 15 U.S.C. §§15 and 22, and 28 U.S.C. §1391(c). Each of the defendants resides, is found, has an agent, transacts business or is doing business within the Northern District of Illinois or the unlawful activities complained of herein were carried out, in whole or in part, within this District.

THE PARTIES

THE PLAINTIFF

4.-5. ECOS Electronics Corporation, plaintiff herein (usually described hereafter as "ECOS") at all times pertinent hereto was and is a corporation organized and existing under the laws of the State of Illinois. ECOS has been and is engaged in the manufacture and distribution of electrical safety and measuring equipment throughout the various states of the United States as well as in Canada, Europe and South America. Its principal place of business is located in Oak Park, Illinois.

THE DEFENDANTS

ECOS' COMPETITOR

6. Daniel Woodhead, Inc. At all times pertinent hereto, defendant Daniel Woodhead, Inc. (hereafter usually described as "Woodhead") was and is a corporation currently organized under the laws of the State of Delaware. Woodhead was and is engaged in the manufacture and distribution of electrical ground testing instruments and electrical devices, including portable and special purpose hand lamps and wiring devices (plugs, cord connectors, receptables, sockets, low voltage safety lights, etc.). These products are distributed throughout the United States as well as in Canada, Europe and South America. They are in direct competition with ECOS in all of these geographical markets. Woodhead's principal place of business is in Northbrook, Illinois.

7. Alan Reed. At all times pertinent hereto, defendant Alan Reed ("Reed") was and is an employee, officer or director of Woodhead. He was at all times pertinent hereto on the board of Directors of the National Safety Council. He has also worked

extensively with Underwriters Laboratories, Inc. All conduct hereafter attributed to Reed was performed by Reed in the ordinary course of his business for and within the apparent scope of his employment by Woodhead. Plaintiff believes that Reed resides in Oak Park, Illinois.

PRIVATE SAFETY AND STANDARD MARKETING GROUPS

8. National Fire Protection Association. This defendant (usually described hereafter as "the NFPA") at all times pertinent hereto was and is a corporation organized and existing since 1930 under the not-for-profit laws of the Commonwealth of Massachusetts. NFPA has a 26-member Board of Directors, a staff of over 100 professionals and a slightly larger number of support personnel. It has an annual budget of approximately $11 million, generated through membership dues, sales of safety codes and various publications and audio-visual materials, research grants and contributions. NFPA has approximately 31,000 individual members and 150 national trade and professional organization members. While the majority

of its members are United States residents, many are from Canada, and over 85 other countries are represented. Approximately 38% of its members are in business and industry, 33% are in government, 15% are in health care, educational or similar institutions, 7% are in architecture, 1.5% are in trade or professional associations, and 5.5% are in miscellaneous other fields. Its principal place of business is Qunicy, Massachusetts.

9. NFPA is engaged in two basic areas of activity: technical and educational. Educational activities are directed to the general public and aimed at increasing general safety habits. Its technical activity involves preparing and distributing standards and codes aimed at reducing hazards.

10. These standards and codes are developed by over 150 technical committees, each of which is supposed to represent a balance of interested parties affected by the standards and codes. Each committee includes one or two people employed by NFPA. No other committee members draw a salary from NFPA. Most other members are employed by corporations that

manufacture products whose marketability is affected by the standards and codes developed or by corporations with heavy investments in systems or products which are affected by these standards and codes. Most of these corporations pay to their employees their salaries and expenses while they are engaged in NFPA work. In fact, a prerequisite to being accepted as an NFPA committee member is a showing that one has the financial resources to participate fully in the committee's work.

11. These standards and codes are particularly influential among those whose primary interest is safety. They are often adopted in legislation promulgated by all levels of government, including state, municipal and federal. Many have been incorporated into the Occupational Safety and Health Act (more fully described in paragraph 29). They are used by the insurance industry, by corporate and governmental purchasing agents, standards engineers, architects, engineers, and by anyone else who needs to evaluate the risks involved in particular products and designs.

12. American National Standards Institute. This defendant (usually described hereafter as "ANSI") was and is a not-for-profit corporation. Its principal places of business is located in New York City. ANSI's membership includes approximately 180 voluntary organizations representing technical disciplines, manufacturers, consumers and labor. In addition, ANSI members include over 1,000 companies, including a substantial percentage of the Fortune 500 companies and representatives of local and national governments.

13. The principal business of ANSI is coordinating the activities of groups across the country which are developing standards. Standards developed by these individual groups are submitted to ANSI for approval. This approval is the ultimate responsibility of the Board of Standards Review. The Board reviews proposed standards for compliance with various criteria, including their technical soundness, fairness, potential conflict with other standards, and general acceptance nationwide.

14. When a standard is approved by ANSI, its impact on the market is greatly increased. ANSI

approves and distributes a wide variety of standards. Many large corporations, government units from local to the national level, as well as many foreign corporations and governments look to an ANSI standard in determining what product to purchase. Thus, ANSI standards are routinely referenced in corporate purchasing guides, incorporated into local building or electrical codes, and are adopted by engineers, architects and others responsible for designing and constructing products or systems, as well as by OSHA and other federal agencies. ANSI-approved standards also have a great impact on other private organizations which develop or enforce standards, such as UL (see Par. 17).

15. National Safety Council. This defendant (usually described hereafter as "NSC") was and is a corporation organized under the not-for-profit laws of the State of Illinois. Its principal place of business is located in Chicago, Illinois. NSC has a Board of Directors of over 100 individuals, drawn mainly from corporations involved in safety related industries, including manufacturing, transportation and

construction as well as from the insurance industry, government and education. It has over 15,000 members, drawn from the United States and abroad. At all times pertinent hereto, defendant Reed was a director of NSC.

16. NSC is involved in many safety related activities, including public education and the publication and distribution of National Safety News. In addition to its own activities, NSC sponsors numerous members to committees involved in safety work, including NFPA committees. The members sponsored by NSC are usually employed by others, including manufacturers with an interest in the work of these committees.

17. Underwriters Laboratories, Inc. This defendant (usually described hereafter as "UL") at all times pertinent hereto was and is a corporation organized and existing under the not-for-profit laws of the State of Delaware. Its principal place of business is located in Northbrook, Illinois.

18. One of the purposes of UL, as stated in its Certificate of Incorporation, is:

> ". . . to ascertain, define and publish standards, classifications and specifications for materials, devices, products, equipment, construction, methods, and systems affecting such hazards and other information tending to reduce or present bodily injury, loss of life and damage from such hazards."

19. One of UL's primary activities is developing Standards for consumer and industrial products. These standards are developed through either the "canvass method" or the "Accredited Organization Method." While the details of these methods differ, in essence each involves a four step procedure. First, draft standards are written by a committee which includes representatives from manufacturers of the product, users of the product, interested public agencies (for example, inspectors), and UL professional staff. Second, the draft standards are circulated to a broader group of interested people drawn from the same basic groups. Third, any comments received are considered by the drafting committee, and any necessary changes are made in the draft. If extensive changes are made, they will again be circulated for comments. Finally

these standards are submitted to ANSI for approval and adoption as national safety standards.

20. Products which have been tested by UL and found to meet its standards are listed by UL. A UL listing is relied upon by the insurance industry, by government agencies and by any other person or entity who must minimize the risks involved in the use of particular products. Failure to obtain a UL listing often means that a product is virtually unsaleable in the markets where UL has a large impact.

21. UL's primary source of income is the fees it charges for its "follow-up service." After a product is listed by UL, the manufacturer is allowed to affix the UL seal of approval onto the product and to use the UL seal in advertising. Each time the UL seal is used, the manufacturer pays UL a small fee. Since a very large number of products carry the UL seal, these fees amount to a substantial income every year. UL thus has a strong financial incentive to promote the sales of UL listed products. It also has a strong interest in ensuring that once a product has been listed, the

standards are not changed so that the product can no longer be listed.

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22. Each of these groups which develops standards or codes or list products or has a general interest in safety has a particular segment of the market in which it has the greatest impact. By approving, publishing, referencing, distributing and participating in the development of one another's standards, each group is able to increase the size of the market on which it has a significant impact. For example, NFPA has a large impact in those areas of the market which relate directly to fire hazards and related safety concerns, like the construction industry. ANSI on the other hand, has great impact among large industries, such as steel manufacturers, because it publishes many standards which are directly relevant to their particular operation. These latter industries may never have heard of NFPA. Thus, when ANSI approves, publishes and distributes an NFPA standard, the NFPA standard will

have an impact on a much broader segment of the market. This sort of cross-fertilization between these defendants is a common practice.

MONSANTO

23. The defendant Monsanto Company (usually described hereafter as "Monsanto") at all times pertinent hereto was and is a corporation organized and existing under the statutes of the State of Delaware. Its principal place of business is located in St. Louis, Missouri. It is a diversified, multi-national chemical company with offices located throughout the United States.

24. In connection with its primary manufacturing activities, Monsanto is involved in three basic types of new construction: (1) New plants at existing sites; (2) new additions to existing plants, and (3) modifications of existing plants. Between 1969 and 1974, these categories of construction averaged $112 million per year. Each of these aspects of its construction program include extensive electrical systems. Since all three types take place in close

proximity to existing plants, it is cost efficient if Monsanto can simply extend their existing electrical systems rather than designing new systems to meet updated safety requirements. Monsanto thus has a financial interest in working to ensure that no changes are made in the standards which their electrical systems must meet.

25. As a result of this interest in electrical systems, Monsanto ensures that it has a voice on committees that are developing codes and standards, including various NFPA technical committees. Monsanto sponsors many of its employees to trade organizations and professional groups; these groups in turn officially sponsor Monsanto employees to code or standard making panels. Monsanto pays its employees' salaries and expenses while they are attending these meetings of these groups and committees.

26. Monsanto employees have a great influence on the various committees in which it is involved. This influence is based on the extensive nature of its operation and its resulting impact on the market.

27. Robert West (usually described hereafter as "West") was employed by Monsanto until May, 1979. At that time he appears to have retired from Monsanto. However, on information and belief, he is still working as a consultant to Monsanto. West was employed as an electrical engineer in Monsanto's corporate engineering department. As such he was directly involved in the design and construction of electrical systems for Monsanto's new construction projects. During this period of West's employment by Monsanto, he was active on a number of electrical committees, as described more fully hereafter. These committees included the NFPA 70-E Committee and the NEC Panel 5 Committee on grounding.

28. At all time pertinent hereto, West was also a longstanding member of the Institute of Electronic and Electrical Engineers (ususally described hereafter as "IEEE"). IEEE is an engineering society representing a substantial proportion of all manufacturers and users of electrical products.

OSHA

29. The Occupational Safety and Health Administration (usually described hereafter as "OSHA") is an agency of the federal government, operating as a part of the Department of Labor. It was created by the Williams-Steiger Act in 1970, 29 U.S.C. §651 et seq. OSHA is charged with legislating and enforcing health and safety standards for workplaces in the United States, Puerto Rico and the Virgin Islands.

30. In developing these standards, OSHA works closely with groups in the private sector such as UL, ANSI and NFPA. These relationships include both adopting standards developed by other groups and active participation in these groups. Once a standard is adopted by OSHA, it acquires the force of law, and compliance is mandated in any workplace which affects interstate commerce. There are over 55 million such workplaces in the United States.

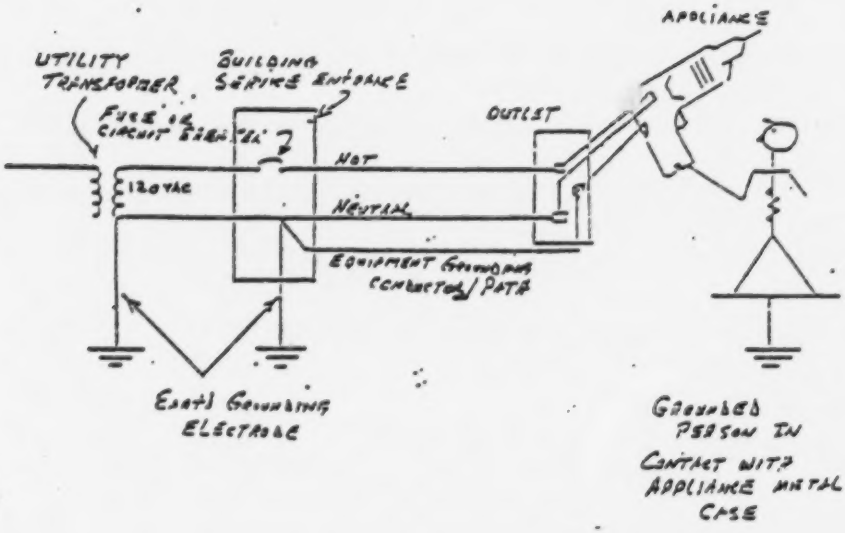
31. As part of OSHA's enforcement activities, it purchases a variety of test equipment for use by its inspectors. OSHA's use of particular products has a large impact on the market for that product

because owners who want to ensure that they are in compliance with OSHA standards will often purchase the products they know the inspectors will be using. The use of a product by OSHA is often used as a selling point in manufacturer's literature.

32. OSHA also operates a training institute. This facility offers courses on safety and health which are primarily intended for OSHA inspectors, but which are also attended by representatives from the private sector. Products used by OSHA get additional exposure through the Institute's classes which teach participants to use these products.

NATURE OF ELECTRICAL GROUNDING AND GROUND PATH TESTING

33. Under normal operating conditions, all electrical current flows from the source of supply, such a transformer, through the ungrounded ("hot") conductor to the load (appliance, motor, etc.) and returns to the source on the grounded ("neutral") conductor. No electric current normally flows through the equipment grounding conductor. Figure 1.



34. For the purposes relevant to this case, the primary purpose of the equipment grounding conductor is to provide protection to personnel in the case of a "ground fault" or "short circuit."

35. A ground fault or short circuit occurs when the hot wire contacts a metallic surface outside of the ordinary current path. For example, the hot wire inside an applicance breaks loose from the motor, and makes conact with the metal case of the appliance.

36. Since the equipment grounding conductor is connected with the case, current will flow through this path and back to the source to complete the circuit. If the grounding path is effective, then the amount of current which will be developed will be

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extremely large and sufficient to instantaneously cause the circuit breaker or fuse to open, stopping the current flow and eliminating any danger to the personnel.

37. While this large electric current flows through the grounding path, some current will flow through any person who is in contact with the appliance case until the circuit protective device operates. The effective operation of this system therefore depends on the circuit breaker or fuse opening quickly. Under normal conditions, it may take less than a second to kill someone in contact with a shorted appliance.

38. It is therefore crucial that the grounding path be capable of generating sufficiently high current (have a low impedance) and carry this current (have a high capacity) to cause the circuit protective device breaking the circuit (the fuse or circuit breaker) to operate before any serious damage occurs.

THE NATIONAL ELECTRIC CODE

40. The National Electric Code (usually described hereafter as "NEC") developed by the NFPA in 1911, sets forth the standards to which an electrical

system must comply. This includes among other elements an effective grounding path. The NEC focuses on the construction and design of electrical systems. It has been incorporated into building and electrical codes by corporations and governments from the local to the national level, both in the United States and abroad. In 1971, OSHA adopted the NEC as its standard for electrical safety.

41. In order to ensure that electrical systems are adequately grounded, the NEC includes a section entitled "Effective Grounding Path" (§250-51) which sets out basic requirements for a proper grounding path:

> "250-51. Effective Grounding Path. The path to the ground from circuits, equipment, and conductor enclosures shall:
>
> (a) Be permanent and continuous.
>
> (b) Have capacity to conduct safely any fault current likely to be imposed on it.
>
> (c) Have sufficiently low impedance to limit the voltage to the ground and to facilitate the operation of the circuit protective devices in the circuit."
>
> (Emphasis added.)

This section has been in the NEC for many years without change.

42. Because of the NEC's orientation towards new construction, it usually fails to specify any particular means by which a system, once it is installed, can be tested to ensure that it remains in compliance with the NEC standards. This inadequacy is manifested in §250-51, where "low impedance" is specified; however, no specific values are required nor is any method for testing the impedance of the grounding path suggested.

ELECTRICAL TESTING EQUIPMENT

43. There are only two primary sources in the United States for equipment designed to test an electrical system for the adequacy of its grounding path. One of these sources is the plaintiff, ECOS, which manufactures a line of test equipment. The other source is Woodhead, which is the sole United States distributor for a product manufactured by Edgecumbe Peebles in Glasgow, Scotland.

44. ECOS products. Model 1020. a ground Impedance Tester, was introduced in 1972. It is designed to measure the impedance of grounding paths of 120 volt through 600 volt electrical systems and equipment. It makes this measurement by injecting a test pulse of electricity into the grounding path, and then measuring the impedance of this path. ECOS models 7100, 7105 and 1023 perform a similar function, with slight differences in flexibility and range of tests performed. The ECOS products are the only products which can be used to test whether the impedance of the grounding path along is low, as specifically required by Section 250-51 of the NEC.

45. Woodhead product. Defendant Woodhead is the sole United States distributor of the Ground Loop Impedance Tester (GLIT). Like the ECOS model 1020, Woodhead's GLIT operates by injecting an electrical pulse into the electrical system. However, rather than measuring the impedance of only the grounding path, as called for in Section 250-51 of the NEC, the GLIT measures the resistance, not the more relevant impedance value, of a "grounding circuit" or ground

loop, which includes irrelevant portions of the electrical circuit. In spite of the objectively inferior nature of its product, Woodhead has maintained the dominant position in the grounding system test equipment market in the United States. It has maintained this position, at least in part, through the use of tactics such as those set forth herein.

DEFENDANTS' CONSPIRACY TO EXCLUDE PLAINTIFF FROM THE GROUND PATH TESTING MARKET

46. The defendants Woodhead, the other named defendants, OSHA, and other persons unknown to plaintiff at this time, have conspired to exclude the ECOS ground path testing equipment from interstate trade. This conspiracy is continuing in nature.

47. The focal point of this conspiracy has been, and continues to be the 70-B and 70-E standards which have been and are being promulgated under the auspices of the NFPA. Plaintiff believes that defendants have intentionally used these standards to exclude ECOS from the market for ground path testing equipment. In the alternative, even if the defendants

did not act with the intent to exclude ECOS products from interstate trade, the 70-B and 70-E standards are irrational and unreasonably anti-competitive in effect.

48. In furtherance of this conspiracy to exclude ECOS products from interstate trade, the defendants, as a group or individually, have engaged in a series of wrongful acts, including, among others and without limitation, the following as described in paragraphs 49 through 66 herein.

OVERT ACTS

Enactment of NFPA Standard 70-B: Electrical Equipment Maintenance

49. On June 27, 1968, the NFPA Board of Directors created a committee on Electrical Equipment Maintenance ("the NFPA 70-B Committee.") Its mandate was:

> "To develop suitable texts relating to preventive maintenance of electrical systems and equipment used in industrial-type applications with the view of reducing loss of life and property."

50. Defendant Reed was a member of the NFPA 70-B committee from 1971 through 1977. He was Chairman of the Committee from 1974 through 1977.

51. Reed was officially sponsored by the defendant National Safety Council on this Committee; however, he was an officer, employee or director of Woodhead throughout his service on the NFPA 70-B Committee and has acted with the apparent authority of Woodhead, as well as the National Safety Council.

52. Other members of the NFPA 70-B Committee included representatives of major corporations and chemical companies such as Eastman Kodak Company (represented by Leonard S. Corey), Proctor and Gamble Company (represented by H. Dale Sheets), E.I. du Pont de Nemours & Co. (represented by G.G. St. Onge), representatives of major electrical manufacturers and manufacturers' associations such as Pass and Seymour, Inc. (represented by Jack Wells), Westinghouse Electric Corporation (represented by W.L. McKeithan), Western Electric Company, Inc. (represented by Warren H. Cook and William A. Weddendorf), and the National Electrical Manufacturers

Association represented by four individuals, including Jack Wells); and representatives from various other interested groups, such as other trade associations, professional journals and testing laboratories. Many of these individuals officially represented independent organizations.

53. The NFPA 70-B Committee was expected to produce a standard which would expand the NEC to areas of existing electrical systems not covered by the NEC (as explained in paragraph 42 herein) and in that respect to be consistent with the NEC; in particular, this standard would be used by inspectors and employers to ensure that electrical systems remained in compliance with the NEC requirements so as to continue to provide reasonable employee safety after building construction and years of subsequent operation. Like other NFPA Standards, 70-B would be submitted to ANSI for adoption and then published and distributed throughout the country and overseas.

54. In 1974, the Committee released "70-B Tentative," a draft which was circulated to interested parties for comments pursuant to NFPA procedures. In

1975, the final version was released, and in 1977, 70-B was officially adopted by NFPA and approved by ANSI (see appendix for full texts; all further references to sections of NFPA 70-B will be to the 1977 section numbers).

The Unreasonably Exclusionary Nature of NFPA 70-B

55. NFPA 70-B in several respects, as a result of the conspiracy alleged herein, unreasonably excludes ECOS products from interstate trade and favors Woodhead products. In particular, and without limitation:

(a) NFPA 70-B continually refers to "ground loop," "grounding circuit," "ground loop impedance test," and "ground loop impedance tester." These terms correlate precisely with Woodhead's product literature, and specifically exclude the ECOS product in that:

(1) § 4-2.6.6 of NFPA 70-B refers to a "ground loop tester." Woodhead's product tests the ground loop and is called a Ground Loop Impedance Tester. The ECOS products test the grounding path.

(2) § 6.8.9.2 refers to a check of the "equipment grounding circuit." The Woodhead product is advertised as testing a "circuit." The ECOS product tests the grounding path, not a circuit.

(3) § 6.8.9.4 states that the necessary test can be performed with a "ground loop impedance tester." The Woodhead product is promoted under the trade name, "Ground Loop Impedance Tester." The ECOS Model 1020 is promited under the trade name, "Electrical Safety Analyzer," and specifically claims that it does not test a loop, only the grounding path.

(4) § 18-13.2 specifies a "ground loop impedance tester," a test pulse current of 20 amperes and direct readout of ohms. The Woodhead product is the only product on the market that meets these particular specifications.

(b) NFPA 70-B contains additional specifications which are irrational in nature or which conflict or do not conform with the NEC, despite the NFPA 70-B Committee mandate, as described earlier. In particular,

and without limitation:

(1) NEC § 250-51 specifically requires an adequate grounding path. As noted earlier herein, a primary purpose of NFPA 70-B is to provide a standard of testing in conformance with NEC § 250-51. However, NFPA 70-B as promulgated specifies the testing of a grounding circuit or loop, not the grounding path. By measuring the grounding circuit or loop, NFPA 70-B provides an inferior method of testing. Moreover, the Woodhead products measure the grounding circuit or loop. The ECOS products measure only the grounding path.

(2) NEC § 250-51 specifically requires that "The path to ground from circuits, equipment and conductor enclosures shall *** (c) have sufficiently low impedance to limit the voltage to ground ***." However, NFPA 70-B specifies measurement of a resistance of the ground loop only, a requirement designed to meet the limited capabilities of the Woodhead product. ECOS products do in fact measure impedance.

(c) NFPA 70-B § 18-13 limits to 20 amperes the amount of current that the test equipment can inject into the ground path. This limitation was and is unnecesary because of the technologically advanced nature of the ECOS products. The limited nature of the Woodhead product satisfies this artificial limitation. On the other hand, because of their technically advanced nature, the ECOS products cannot meet this artificial limitation.

The Unreasonably Exclusionary Nature of UL Specification #1436

56. In 1977, UL approved its specifications #1436 which sets forth UL's requirements for its listing of electrical circuit testing equipment, pursuant to the general procedures described earlier herein.

57. UL specifications #1436 in certain respects, as a result of the conspiracy alleged herein, unreasonably excluded ECOS products from interstate trade and favors products which compete with ECOS: in particular, and without limitation:

(a) UL Specification #1436, ¶14.1, limits to 2 milliamperes the amount of currents that the test

equipment can introduce into the electrical circuit. This limitation was and is unnecessary because of the technologically advanced nature of the ECOS products. The limited nature of products which compete with ECOS products satisfies this artificial limitation. On the other hand, because of their technically advanced nature, the ECOS products cannot meet this artificial limitation.

(b) The exclusionary nature of the artificial limitation of UL Specification #1436 is intensified because products which UL states satisfy the requirements of this specification in fact do not accomplish the intended purpose of UL Specification #1436, and are inferior to the ECOS products.

58. On May 26, 1981, ANSI approved UL Specification #1436 and thereby gave to UL Specification #1436 all of the force and effect of an ANSI standard, as previously described herein.

The Unreasonably Exclusionary Nature of Contemplated NFPA 70-E

59. When OSHA was created in 1970, the basic charge was to safeguard people in the workplace. Most

of the standards that had previously been developed by private groups were designed primarily to protect property, not individuals. These existing standards, therefore, did not fully satisfy OSHA's needs. However, if OSHA had developed new standards, companies that had relied on the old standards might be faced with replacing extensive parts or their existing facilities in order to comply with OSHA regulations. To avoid this result, OSHA in large part adopted existing codes, including the NEC which OSHA adopted in 1971.

60. While the NEC is a comprehensive electrical code, it mainly covers requirements for electrical systems in new installations, not ongoing safety of employees in the workplace. Therefore, soon after OSHA adopted the NEC, it began to make plans to revise it. Rather than attempting to modify the NEC piecemeal, OSHA decided to develop a complete set of standards which would be more directly related to its specific requirements. However, in order to avoid forcing companies to comply with two conflicting standards, OSHA indicated that its electrical standard would be fully compatible with NEC.

61. On January 7, 1976, NFPA created the Committee on Electrical Safety Requirements for Employee Workplaces, NFPA 70-E (usually described hereafter as "the NFPA 70-E Committee"). The Committee's explicit purpose was to assist OSHA in preparing electrical safety standards to be adopted by OSHA under Section 6(b) of the Occupational Safety and Health Act (29 U.S.C. § 655(b)).

62. Members of the NFPA 70-E Committee included Robert West, at that time employed by Monsanto, and Silvio Patti, at the time head of Electrical Standards, Department of Labor - OSHA. Alan Reed of Woodhead was Chairman of the Committee. These individuals have acted with the apparent authority of their employers in all matters alleged herein.

63. NFPA 70-E is to consist of four parts. Part III is entitled "Safety Related Maintenance Requirements."

64. The NFPA 70-E Committee intends to adopt NFPA 70-B as Part III of NFPA 70-E. It will then in turn be adopted by OSHA, and thereby carry the

force of law. If OSHA adopts Part III of NFPA 70-E, the exclusionary effect of the present NFPA 70-B will be greatly magnified and ECOS will be further irreparably harmed.

OSHA's Actions
in Furtherance of the Conspiracy

65. In furtherance of the conspiracy alleged herein, OSHA committed the following acts which unreasonably exclude ECOS from interstate trade. In particular, and without limitation:

(a) On February 7, 1977, OSHA by Silvio Patti, regarding OSHA New Construction Standards, ordered that beginning February 17, 1977, OSHA would test only for grounding continuity. Since this order ignored the NEC §250-51(c) requirement regarding low impedance, it effectively eliminated the market for ECOS products among those persons and entities interested in complying with OSHA's electrical safety regulations.

(b) Through various public statements, publicity, reports, etc., OSHA sanctioned the use of the Woodhead products, while refusing to recognize the ECOS products.

(1) On August 5, 1976, Plant Engineering, edited by Edward Palko, a member of NFPA 70-B Committee, published an article by William Watkins, an instructor at the OSHA Training Institute. Watkins described OSHA's use of Woodhead's GLIT and emphasized the importance of ground loop impedance testing. Plant Engineering has since refused to print technical articles submitted by ECOS that discussed the differences between an effective ground path and a ground loop. Plant Engineering is a large and well respected trade journal which is widely circulated among members of the market for ground path testing equipment.

(2) In June, 1977, the National Electrical Contractors Association issued a special report authored by Charles Hart, a member of NFPA 70-B, discussing OSHA's testing requirements. A picture of Woodhead Receptacle Tester was included as a suggested testing device. The report stated it had been reviewed by OSHA and approved.

(c) In 1978, instructors at the OSHA Training Institute made a series of comments to students falsely

denigrating the ECOS Model 1020. Thousands of students attend the OSHA Training Institute, including but not limited to OSHA inspectors.

(d) ECOS has made numerous attempts to present technical data to Silvio Patti and other OSHA employees demonstrating the inability of the Woodhead GLIT to measure compliance with NEC §250-51, and the ability of ECOS products to make these measurements. OSHA has rejected the ECOS data without any rational basis.

Monsanto's and Robert West's
Actions in Furtherance of the Conspiracy

66. In furtherance of the conspiracy alleged herein, Monsanto, acting pursuant to its interest in resisting changes in safety requirements described earlier herein, committed the following acts which unreasonably exclude ECOS products from interstate trade. In particular, and without limitation:

(a) In January, 198, Robert West, in his capacity as an electrical engineer for Monsanto, presented a paper to the Institute of Electrical and Electronic Engineers (IEEE). This paper discussed the

effects of Silvio Patti's memo on New Construction Standards. West included the name, address and telephone number of Woodhead, the model number of the GLIT, a sketch of the Woodhead Receptacle Tester, and a suggestion that the Woodhead products be used to perform the required tests.

(b) At the IEEE meeting held in 1979, West made a detailed presentation attacking ECOS Model 1020 through a series of misleading statements and faulty presumptions. These statements were further substantiated by William Watkins as being consistent with OSHA policy.

(c) In 1980, while testifying before OSHA, West continued his attack on ECOS products. He took the position that testing of grounds was impossible since there was no instrument available that could validly perform these tests. This position had and has no basis in fact as these tests are performed by ECOS products. In fact, this position is directly contrary to the position taken by West on behalf of Monsanto in earlier OSHA hearings.

THE EFFECT OF THE CONSPIRACY

67. The NEC, including §250-51 which requires low impedance in the grounding path, is used nationwide by numerous municipalities in their building codes, by contractors, architects, engineers and almost anyone else who works with electrical systems.

68. ECOS makes the only known product available in the United States which can test for compliance with NED §250-51(c).

69. Anyone who relies on the irrational standards set forth in NFPA 70-B as a guide to complying with NEC §250-51 will be dissuaded from purchasing an ECOS product.

70. UL listing of a product is often a prerequisite (either explicitly or implicitly) to effective marketing of the product. For example, ECOS was unable to sell its Models 7100, 7105 or 1020 to the City of Chicago for use in making electrical safety inspections because ECOS products were not UL listed.

71. Potential users of electrical test equipment who are within OSHA's jurisdiction rely heavily on

OSHA's use of particular methods of testing in their choice of test products.

72. Monsanto and Robert West, often through third parties, have widely publicized the supposed faults of ECOS products.

73. The unlawful conduct above described has for some time threatened, and continues to threaten, elimination and removal of plaintiff as a competitor in the production and sale of grounding path testers in interstate and foreign commerce.

74. The unlawful conduct above described has impaired the ability of plaintiff to compete effectively for business in the production and sale of ground path testers in interstate and foreign commerce, and has impeded the growth of plaintiff in size and profitability.

75. The unlawful conduct above described had caused, and will continue to cause, plaintiff to be deprived of sales of ground path testers and payment derived therefrom, that could have been obtained in a free and open market, in the absence of the wrongful and monopolistic acts of defendants.

COUNT ONE

Violation of Section 1 of the Sherman Act (15 U.S.C. §1)

77. Defendants' conduct, particularly their participation in the formulation and adoption of industry-wide standards for ground testing which is not based on objective standards, but which is designed to unreasonably favor defendant Woodhead's products and exclude ECOS products, violates the prohibition of contracts, combinations or conspiracies in restraint of trade among the several states, contained in Section 1 of the Sherman Act, 15 U.S.C. §1.

COUNT TWO

Violation of Section 2 of the Sherman Act (15 U.S.C §2)

78. Defendant Woodhead's conduct, taken in combination with others to exclude ECOS, its principal competitor from the market, particularly by formulating and adopting NFPA 70-B, violates the prohibition of monopolizing, or attempting to monopolize any part of the trade or commerce, contained in Section 2 of the Sherman Act, 15 U.S.C. §2.

COUNT THREE

Violation of the Common Law Prohibition of Restraints of Trade

79. Defendants' attempt to exclude ECOS from the market for ground test equipment violated the common law prohibition of restraining trade.

COUNT FOUR

Trade Libel

80. The defendants have caused the publication of untruths disparaging the products of plaintiff, such publication being accompanied by an intent to cause competitive injury, personal hostility, non-belief in the statements published, and bad faith. These untruths were published maliciously and without reasonable or probable cause to believe in the truth thereof. These publications of injurious falsehoods constituted, and continue to constitute, the tort of trade libel (also described as "injurious falsehood" and "disparagement of property").

COUNT FIVE

81. Defendants' conduct violates the prohibition contained in Section 6 of the Illinois Anti-Trust Act, Ill. Rev. Stat., ch. 38, §60-1 et seq.

PRAYER FOR RELIEF

WHEREFORE, plaintiff hereby demands judgment on each and every Count against defendants, and prays for:

A. Damages in an amount of $25,000,000.00 to be trebled according to law, for injury to its business and property, together with the costs of suit, including reasonable attorney's fees;

B. A temporary and permanent injunction prohibiting, enjoining and restraining defendants and each of them from continuing the violations of the laws as herein alleged;

C. Compensatory and punitive damages in an amount presently undetermined by reasons of malicious publication of injurious falsehoods and trade libel.

D. Such other and further relief as the Court may deem just.

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

ECOS ELECTRONICS CORPORATION	)	
Plaintiff,	)	
v.	)	No. 81 C 3939
DANIEL WOODHEAD CO., et al.,	)	The Honorable John F. Grady
Defendants.	)	

AMENDMENT NUMBER TWO TO COMPLAINT

The following replaces paragraphs 17-21(c) and 56-58(n) of the Amendment Number One to Complaint, and adds paragraphs 45(a-d);

17. Underwriters Laboratories, Inc. This defendant ("UL") at all times pertinent hereto was and is a corporation organized and existing under the not-for-profit laws of the State of Delaware. Its principal place of business is located in Northbrook, Illinois. One of the purposes of UL, as stated in its Certificate of Incorporation, is:

> "[T]o ascertain, define and publish standards, classifications and specifications for materials, devices, products, equipment, construction, methods, and systems affecting such hazards and other information tending to reduce or present bodily injury, loss of life and damage from such hazards."

UL's Listing of products, the development and promulgation of UL Standards for Safety, and the impact of these functions in the relevant market are described in detail hereafter; in addition, UL's submission of its Standards for Safety to defendant ANSI for its approval and their adoption by ANSI are discussed in detail hereafter (par. 21(a)).

UL's Listing of Products and Follow-Up And Promulgation of Standards for Safety

18. As an integral part of its business, UL conducts and operates a Product Listing Service. In return for the payment of a monetary fee to UL, an applicant may submit its product to UL for investigation and testing in order to obtain a Listing by UL and a right by the manufacturer to affix the UL Listing mark to its products and describe it in advertisements. This

service is described by UL in its publication "Testing For Public Safety" as follows:

> "Upon successful completion of the investigation [of the applicant's product], and after agreement to the terms and conditions of the Listing and Follow-Up Service, Underwriters Laboratories publishes the names of the companies who have demonstrated the ability to provide a product conforming to the established requirements. Listing signifies that production samples of the product have been found to comply with the requirements, and that the manufacturer is authorized to use the Underwriters Laboratories' Listing Mark on the Listed products which comply with the requirements...."

UL tests such products against requirements previously developed for similar products, or if no similar products have been tested, UL develops new requirements based on the features and design of the submitted product. If the product meets UL's requirements, then UL permits the manufacturer, upon payment of additional fees, to affix the UL label to its product.

19. After UL has listed a number of products in a particular category, UL promulgates these criteria for the Listing of these products in the form of a printed

document known as a "UL Standard For Safety". UL Standards for Safety are used by UL in its own product evaluation and Listing, and are almost universally accepted in the marketplace as the definition of an adequate or safe level of performance for the particular type of product described in the Standard.

20. As a result of UL's long history of involvement with safety standards and product testing of a wide range of products and because of its agressive marketing activities, UL Listings, and Standards for Safety have a tremendous impact in the market for any product covered by a UL Standard or in any market in which one or more competing products UL lists are sold.

21. UL's Standards and its Product Listing Service have two substantial effects in a market:

(a) Any product which does not have a UL Listing or which cannot meet the specifications of a UL Standard risks market rejection as "unsafe". For example, in many areas it is illegal to sell consumer or industrial electrical products unless they are UL Listed;

(b) Many purchasers, including most municipalities, do not

have the capacity to test individual products. They therefore rely on UL's Product Listing and Standards For Safety to set levels of performance of the products that they purchase. Any product which exceeds the UL requirements and is thus more expensive than products which barely meet UL's requirements will also tend to be rejected as containing frivolous, unnecessary and unduly expensive features.

21(a). The broad impact of UL Standards is increased by UL's policy of submission of its Standards to ANSI for approval as American National Standards. Thus, UL has designed its standards development process to comply with ANSI's procedures for standards development. When a UL Standard is approved by ANSI, its market impact is greatly increased. For example, the U.S. Department of Defense rountinely adopts proposed and existing ANSI/UL Standards.

45(a). As alleged in paragraphs 44 and 45 herein, in addition to the ECOS Model 1020 (the Ground Impedence Tester) and the Woodhead Ground Loop Impedence Tester (the GLIT), there exists another

category of products intended to determine if an electrical system possesses an effective grounding path and is otherwise free from particular hazards. These products are intended to test 120 volt electrical systems and outlets, and are generically known as "outlet circuit testers" (sometimes hereafter described as "testers" or "circuit testers").

There are currently about twenty companies marketing outlet circuit testers throughout the United States and elsewhere. The market for outlet circuit testers is dominated by the Woodhead Model 1750 Receptacle Circuit Tester, manufactured by Woodhead, and by a number of other companies' products (exclusive of plaintiff) whose testers are very similar to the Woodhead tester both functionally and technically, and share the Woodhead testers' inadequacies as described hereafter. Despite these inadequacies, the manufacturers of these outlet circuit testers (hereafter sometimes described as the "Woodhead-type tester") have historically dominated the relevant product market because of the conspiracy in restraint of trade which is the subject of this action.

45(b). Since 1971, plaintiff has manufactured, distributed and sold circuit testers in the relevant market in competition with the Woodhead Model 1750 and other Woodhead-type circuit testers manufactured by other competing companies. Plaintiff's models are currently known as the ECOS 7100A and 7106.

Inferior And Inadequate Nature Of The Woodhead-type Outlet Circuit Testers

45(c). The Woodhead-type tester is inadequate, inferior, does not accomplish the purpose for which it is allegedly intended, and does not adequately test a grounding path to determine if it complies with §250-51 of the NEC. The Woodhead-type circuit tester fails to indicate the existence of a number of conditions in an electrical system which constitute electrical hazards and in certain situations, does not indicate defects which the manufacturer claims it will indicate. In particular, the Woodhead-type circuit tester:

(a) fails to indicate a high impedence ground path;

(b) fails to indicate neutral-ground short;

(c) fails to indicate neutral ground reversal;

(d) can be easily misled by conditions typically encountered in testing circuits.

However, the ECOS circuit testers do not possess any of the defects and inadequacies of the Woodhead-type circuit testers. In addition, the EOCS circuit testers indicate whether the grounding path of a 125 volt electric circuit is continuous, has a sufficiently low impedence and otherwise complies with NEC §250-51. The ECOS testers in part perform these tests by the injection of a test pulse of electricity into the grounding path and measuring the impedence of this path. The ECOS testers are functionally superior and technically more advanced than the Woodhead-type circuit tester, and, as a consequence are more expensive to manufacture and have a higher purchase price than the competing Woodhead-type circuit testers.

Relevant Geographic Market

45(d). The conspiracy complained of herein has affected competition in the outlet circuit tester

market throughout the United States, and has an effect on a not insubstantial amount of interstate commerce between manufacturers of outlet circuit testers located in Illinois (plaintiff and Woodhead) and elsewhere, and distributors and purchasers located throughout the United States.

Restraint Of Trade In The Sale Of Outlet Circuit Testers

56. As part of, and in furtherance of the conspiracy in restraint of trade alleged herein (pars. 46-48), the defendants Woodhead, Reed, UL and thereafter other outlet circuit tester manufacturers and distributors, and the defendant ANSI further agreed, combined and conspired to imbed into the outlet circuit tester market technically inferior outlet circuit testers through the use, among other mechanisms, of UL Listings on their outlet circuit testers, which Listings were knowlingly based upon inadequate, arbitrary, capricious and deceptive criteria, sales documents and related materials, and thereafter through the use of an arbitrary, capricious, deceptive and exclusionary UL and ANSI Standard, sales and technical documentation and

related material, and other conduct described in detail hereafter; the intent, tendency and inherent nature of this agreement, combination, conspiracy and concert of action and the acts agreed to and contemplated thereby was and is to place in the market and to sell inferior outlet circuit testers in interstate commerce; to deceive purchasers into buying products they would not otherwise buy at the expense of competing products; to obtain a competitive advantage in the market over other manufacturers and distributors like plaintiff, to exclude inhibit and restrict from entry into or participation in that market technically superior outlet circuit testers; to unreasonably restrain and inhibit the manufacture and sale of technically superior outlet circuit testers and the development of technically superior outlet circuit testers; and to standardize products as well as standardize prices as described in greater detail hereafter; all in an unreasonable restraint on competition in the outlet circuit tester market, to the damage of the consumer and users of outlet circuit testers.

Wrongful UL Listing Of
Competitors' Circuit Testers

57. On or about November 22, 1972, UL, acting in an arbitrary, capricious, misleading and unreasonable manner, agreed with Woodhead to List the Woodhead Model 1750 Receptacle Circuit Tester and to permit Woodhead to affix the UL Label to the Woodhead Receptacle Circuit Tester although UL had performed no tests on the Woodhead tester to determine if the tester in fact performed in the manner Woodhead claimed it did; in particular, UL tested the Woodhead tester simply to determine if it would melt when subjected to heat, or would give an electrical shock or burn to the user of the tester and other similar tests, criteria or requirements which had no relationship to the purpose for which the Woodhead tester was intended. As a consequence, the UL Listing of the Woodhead Receptacle Circuit tester, pursuant to UL's Product Listing Service, was arbitrary, irrational, unreasonable and misleading. Thereafter, Woodhead and other manufacturers of Woodhead-type circuit testers took full advantage of the UL Listing through the application of the UL label to their products and

advertising materials.

58. On or about January 31, 1973, UL was advised by its Melville, Long Island, New York laboratory that the Woodhead-type tester in fact was faulty, hazardous and misleading to the user; however, UL did not require Woodhead or other manufacturers of Woodhead-type testers to correct or upgrade these testers nor did UL withdraw the UL Listing for the Woodhead-type tester.

58(a) Rather, on or about April 30, 1973, UL, Woodhead and Harvey Hubbell, Inc. (another manufacturer of a UL Listed Woodhead-type circuit tester) agreed that Woodhead and Hubbell would retain their UL Listing previously given their circuit testers pursuant to the unreasonable and irrational criteria employed by UL, and that Woodhead and Hubbell would insert into the packages that contain their respective testers certain written materials which set forth disclaimers which purported to advise users of the faulty, inadequate and hazardous nature of the Woodhead-type tester.

58(b). These written materials were and are inadequate, misleading, unreasonable and deceptive, particularly since they do not disclose to the user the inadequate tests which UL performed on the Woodhead-type circuit testers, the finding of UL's Melville laboratory, and the otherwise inadequate nature of this type of tester. Moreover, these materials are printed and packaged in such a way that they are not likely to be read by the purchaser prior to sale, since the purchaser is immediately made aware of the UL Label affixed to the container in which these materials are placed or to the product itself or in the manufacturer's advertising materials.

58(c). Between 1973 and 1977, UL continued to List the Woodhead-type circuit testers and approve similar Listing for a number of equally deficient Woodhead-type circuit testers manufactured, distributed and sold in the relevant market by other companies. At no time did UL make any attempt to require manufacturers of the Woodhead-type circuit testers to improve their testers so that they would perform properly or withdraw UL Listing from these

types of testers.

Unreasonable, Arbitrary And Deceptive UL Standard For Safety

58(d). In February 1977, UL promulgated a "Proposed First Addition of the Standard for Outlet Circuit Testers and Similar Indicating Devices: UL 1436," (hereafter "UL 1436"). UL 1436 purports to require outlet circuit testers to "accurately indicate ... correct wiring" and specified wiring errors.

58(e). After consultation with the manufacturers of UL Listed Woodhead-type testers and pursuant to an agreement with these manufacturers, UL on May 12, 1978 promulgated UL 1436 in its final form without substantial change. UL 1436 is in full force and effect to date.

58(f). The requirements of UL 1436 are virtually identical to the arbitrary, unreasonable and deceptive criteria UL, in agreement with Woodhead and other manufacturers of Woodhead-type circuit testers, employed to give UL Listing to such testers and were adopted by UL in further agreement with these manufacturers to meet the performance and technical

limitations and inadequacies of the subject circuit testers. In addition, UL 1436 is unreasonable, arbitrary and deceptive for the following reasons:

(1) UL failed to perform any independent studies, tests or investigation to determine the applicable "state of the art" for outlet circuit testers.

(2) In the published Standard, UL failed to disclose that UL 1436 was designed solely to meet the performance and technical limitations of previously Listed Woodhead-type circuit testers.

(3) UL failed to disclose that it had not conducted performance tests of the outlet circuit testers it had Listed.

(4) UL failed to disclose that it had accepted fees from the manufacturers of Listed testers who participated in the development of UL 1436.

(5) UL failed to invite any other manufacturers to submit testers, in order to determine whether products that would accurately detect outlet problems in fact existed.

(6) UL failed to disclose that it had not invited any other manufacturers to submit testers, in order to determine whether products that would accurately detect defects in electrical systems existed.

(7) UL did not disclose that UL 1436

does not comply with the National Electrical Code in that it did not require testing for an effective grounding path, nor for a neutral ground short, although UL states that all of its Standards seek to comply with the National Electrical Code.

(8) UL took no steps to require upgrading of the Listed testers to an adequate and safe performance level once it was aware that its listed testers were inadequate and that properly functioning testers existed.

(9) UL wrongfully states that UL 1436 is "consonant with social and technological advances" when in fact, it is not, since UL 1436 was designed to meet the technical and functional limitations and inadequacies of previously UL Listed outlet circuit testers.

58(g). On or about March 27, 1981, UL Listed all previously UL Listed outlet testers to UL 1436 without requiring that the manufacturers change these testers in any way. Woodhead and other manufacturers of Woodhead-type circuit testers now advertise in the relevant market that that these testers are UL Listed.

58(h). In addition to its unreasonable, arbitrary and deceptive nature as previously alleged, UL 1436 on its face also unreasonably and arbitrarily

excludes any tester which uses technology more advanced than that used in Woodhead-type testers. In particular, paragraph 14.1 of UL 1436 states:

> A device which introduces a current into the equipment grounding conductor of a permanently installed wiring system shall be so constructed that the current introduced shall not exceed 2 milliamperes. (emphasis added).

58(i). This current limitation is not based on any test which UL has performed or upon which UL could reasonably rely. This limitation is arbitrary and unreasonable, has no relationship to safety and merely conforms to the inadequate design of the UL Listed Woodhead-type testers. The limitation tends only to exclude from the market circuit testers which have greater technology and performance qualities and properly test for effective grounding path in contrast to the defective and inadequate UL Listed Woodhead-type testers.

58(j). UL 1436 is the only UL standard which establishes design, construction and performance requirements of products generically known as outlet

circuit testers intended to detect various wiring errors, including faulty grounding conductors in 120 volt electrical systems. Since 120 volt electrical systems are the most commonly used electrical systems in the United States, UL 1436 impacts upon an extremely large potential market for the sale of outlet circuit testers in the relevant market, as alleged more specifically hereafter.

58(k). During the period from on or about February 9, 1978 to May 25, 1979, UL received complaints, letters and other communications from the Consumer Products Safety Commission, UL's own employees, plaintiff, and other manufacturers and users of outlet circuit testers, concerning the irrational, unreasonable, deceptive and arbitrary criteria used by UL to List Woodhead-type circuit testers, the misleading and inadequate written disclaimers UL and Woodhead-type tester manufacturers agreed would be included in the container for said testers, the inadequate and deceptive nature of the UL Listed testers, the misleading nature of the UL Listing on such testers, the arbitrary, unreasonable, inadequate and

deceptive nature of UL 1436 and the unfair competitive advantage that the UL Listing gave to Woodhead-type circuit testers. However, despite requests by plaintiffs and others, UL refused to upgrade its criteria for outlet circuit testers by amendment or withdrawal of UL 1436 or otherwise, or by withdrawal of its Listing of Woodhead-type circuit testers.

ANSI Adoption Of UL 1436

58(l). Rather than reconsidering its requiremtns for Listing of outlet circuit testers, UL on or about May 25, 1979 submitted UL 1436 to ANSI for approval as an American National Standard in order to increase the impact UL 1436 would have on the market.

58(m). During the period from May 25, 1979 to February 3, 1981, both UL and ANSI received comments which opposed ANSI's adoption of UL 1436 for many reasons, including those described in paragraph 58(k) herein. In addition, plaintiff further charged that UL 1436 had an exclusionary and anti-competitive affect because of the two milliampre limitation on current injection. (See par. 58(h) herein).

58(n). In response to this contention by plaintiff, on February 3, 1981, UL wrote plaintiff stating (Exhibit A):

> ECOS testers*** inject test pulses from 35mA to 20 amperes in magnitude*** [it is] the UL position that such test pulses are considered to constitute an unacceptable shock hazard***. (emphasis added)

Although UL knew that this statement was false, UL circulated this letter to over 150 interested individuals (Exhibit B), apparently in an attempt to denigrate ECOS' position that UL 1436 and the UL Listed testers were inadequate.

58(o). ANSI, with full knowledge of the illegal, arbitrary and exlcusionary nature of UL 1436 and the technical inadequacy of the testers which UL had Listed to that standard, and in violation of its own rules of procedure (e.g., American National Standards Institute Procedures For Management and Coordination of American National Standards, Sec. 7), on July 16, 1981, approved and adopted UL 1436 as an American National Standard known as "ANSI/UL 1436" (Exhibit

C). ANSI's approval and adoption of that standard was pursuant to its role of the conspiracy alleged herein, as previously described. Woodhead and other competitors of plaintiff have capitalized upon ANSI's adoption of UL 1436 as an ANSI Standard in the marketing of their products, as described further herein, and will continue to do so unless the relief requested herein is granted.

Unreasonable Restraint
On Interstate Commerce

58(p). The intent, tendency and inherent nature of the aforesaid agreement, combination, conspiracy and concert of action represent and constitute an unreasonable restraint on interstate commerce in that competition in interstate commerce between sellers of testers of varying quality and performance capabilities has been and will continue to be unreasonably restrained and eliminated because UL Listed Woodhead-type testers have been, and will continue to be, given an unfair competitive advantage over the more superior and technically advanced testers like those manufactured by plaintiff; potential purchasers will tend to reject a tester which is more

advanced than the Woodhead-type tester based on UL's fraudulent requirements which indicate that the level of performance of the Woodhead-type tester is all that is required for safety (as alleged in paragraph 21 herein); as a further consequence, the development of technically and functionally superior testers has been and will continue to be impeded; and manufacturers, distributors and sellers of superior testers have been, and will continue to be, deprived of an unfettered opportunity to offer their product in the market and to obtain the benefit of lower costs resulting from economies of mass production, which economies would be passed on to the consumer in the form of lower prices; and consumers in the relevant market will be deprived of the opportunity to buy an outlet circuit tester which is superior to the Woodhead-type tester, ultimately at a lower price.

Special Injury to Plaintiff

58(q). The unreasonable restraint of trade, as described in paragraph 58(p) herein, has and will continue to unreasonably restrain and eliminate plaintiffs from competition with its competitors in the

sale of outlet circuit testers; in particular, plaintiff's competitors in the sale of UL Listed Woodhead-type circuit testers have been and will continue to be given an unfair competitive advantage over plaintiff's more superior and technically advanced but more expensive testers. Since potential purchasers have and will continue to reject plaintiff's testers which are more advanced and thus more expensive than the Woodhead-type circuit testers, based upon UL's fraudulent requirements which indicate that the level of performance of the Woodhead-type tester is all that is required for safety (as alleged in par. 21 herein). Plaintiff has been and will continue to be harmed because the development of its superior testers will continue to be impeded and it will be deprived of the unfettered opportunity to offer its product in the market and to obtain the benefits of lower costs resulting from the economies of mass production, economies which would be passed on to the consumer in the form of lower prices.

58(r). Moreover, plaintiff's outlet circuit testers inject 15 to 15,000 times the maximum current

permitted by UL 1436; plaintiff is unable to modify its products to conform to the requirements of UL 1436 without abandonment of technological advances, increased level of performance and consumer safety benefits inherent in plaintiff's testers as now constituted, since it is the injection of this current which enables plaintiff's products to detect various hazardous electrical conditions which the Woodhead-type testers do not.

During the period commencing on or about August 1, 1978, plaintiff made and continued to make numerous requests to UL that it upgrade the performance requirements for Listing outlet circuit testers and to remove the unnecessary, restrictive design requirement of UL 1436 which limits current injection by outlet circuit testers to two milliampres of electricity.

58(s). UL not only has consistently refused to modify the requirements of UL 1436 in this respect, it has publically stated in its letter of February 3, 1981, that the plaintiff's tester is hazardous because of the amount of current this tester injects into an electrical system.

58(t). Because of UL's refusal to upgrade or otherwise modify UL 1436, it would be and has been a useless act for plaintiff to request that UL List its products in the same manner as UL Lists the Woodhead-type circuit testers (that is, to UL 1436), or under a miscellaneous Listing. As long as UL contiues to List the Woodhead-type circuit testers, in the fraudulent and wrongful manner as described herein, any UL Listing that plaintiff could obtain would be of no benefit, since it still would be forced to compete with the wrongfully UL Listed Woodhead-type circuit testers.

Respectfully submitted,

_____

One of the attorneys for plaintiff

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E38751 Chicago, Ill
64C6997 January 6, 1965

Daniel Woodhead Co.
15 N. Jefferson St.
Chicago, Ill 60606

Attention: Mr. Alan Reed

Subject: Miscellaneous Circuit Tester, Cat. No. 1750

Gentlemen:

We have completed our investigation of the subject device and are reporting the results in this letter. This confirms our telephone conversaton of December 29, 1964.

For the record, the device is provided with parallel blades and grounding pin, suitable for use with a grounding type receptacle rated 15 amp, 125, v. The device consists of a molded polycarbonate frame which supports the blades. Three colored lenses, one white, one amber and one red, are inserted in the opposite end of the frame. Three neon lamps, each with series resistor are connected between blades and between each blade and grounding pin. The lens colors and corresponding connections are as follows: (1) between parallel blades, white lens, (2) between grounded neutral blade and grounding pin, red lens and (3) between grounding pin and "hot" blade, amber lens. The enclosure is completed by a neoprene sleeve which carries the following circuit condition indication:

"O" in table indicates "not lighted."

"X" in table indicates "lighted."

Red	Amber		White	Circuit Condition
O		X	X	Correct circuit
X		X	O	Reversed polarity
O		X	O	Open grounding wire
O		O	X	Open neutral
O		O	O	Open hot wire
X		O	X	Hot and grounding reversed
X		O	O	Hot on neutral and hot terminal unwired

The following tests were conducted with results as shown.

TEMPERATURE TEST:

METHOD

The device was inserted into a correctly wired receptacle and operated until temperatures became constant. The temperature of the surface of the series resistor was measured by means of a thermocouple secured to the surface by means of masking tape.

RESULTS

The temperature on the surface was found to be 56 C in a room ambient of 24 C.

This result was considered to comply with our requirements because any material with which the resistor may come in contact is suitable for at least 60 C.

INPUT TEST:

METHOD

The resistance of the series resistor was measured and found to be approximately 21,500 ohms. The lamp-resistor combination was connected across a

120 v, ac source. The voltage drop across the 21,500 ohms resistor was measured by means of a vacuum tube voltmeter.

RESULTS

The voltage drop was found to be 71 v. This indicates a current of 3.3 ma. The wattage loss was calculated and found to be 0.227 w.

The size of the series carbon resistor indicates that is is rated at nominally 1/4 w. This resistor in series with the neon lamp is in a current leakage path from line to ground. It is generally considered that a carbon resistor used in such a current leakage path should not be used at over 40 per cent of its wattage rating. If used at a greater value its resistance may be gradually reduced so that the current can exceed 5 ma. This is the maximum leakage current permitted. The wattage dissipation of the resistors used should not exceed 40 per cent of the rating.

RELIABILITY OF CIRCUIT INDICATION:

METHOD A

All circuit conditions reported above were checked.

METHOD B

The device was connected to a "correct circuit" except as described. The grounding pin was connected to earth ground. The "hot" blade was connected to the "hot" side of the supply line. The white blade was connected to an insulated conductor nominally 35 ft long which was placed on the floor. A conventional vinyl tile floor separated the conductor from a steel raceway beneath the floor.

METHOD C

The "hot" supply conductor was connected to the "hot" balde of the device. The grounding pin of the device was connected to the grounded supply line. The white (or grounded neutral) blade of the device was connected to earth ground.

RESULTS A

The circuit indication as shown on the jacket was found to be correct.

RESULTS B

The white lens and amber lens were lighted under the circuit conditions described above. This indicates a "correct circuit" condition and is considered to be a false indication because the grounded neutral wire is open. The lamp in this case was being lighted by the capacitance between the raceway and the wire which was connected to the white blade. In general, the longer the wire the brighter the neon lamp. This test condition is considered to simulate a situation where the neutral (white) wire is not continuous in a conduit run between the receptacle tested and service entrance.

It is considered that this is a "false" indication and therefore does not comply with our requirements.

RESULTS C

This gave a "correct circuit" indication by lighting the amber and white lenses. Obviously, this is cosidered a "false" indication and therefore does not comply with our requirements.

We do not consider this device eligible for listing because of results of tests as follows: input reliability of circuit indications, as described in Results B and C.

We are instructing our Accounting Department to bill you for the charges incurred and are closing this assignment with this letter. We intend to return the sample approximately five days after the date of this letter. This is being done so that the sample will be in our hands should there by any comment.

If there are any questions, please do not hesitate to write or call.

Reviewed by:

Yours very truly,

P. J. SCHRAM
Senior Project Engr.
Electrical Department

L. J. WALDRON
Project Engineer
Electrical Dept.

LJW:JE

ENVELOPE

To: Daniel Woodhead Co.
15 N. Jefferson St.
Chicago, Ill 60606

Attn: Mr. Alan Reed

Our Reference: MELVILLE - February 3, 1981
Subject 1436N

Mr. C.C. Kleronomos
President
Ecos Electronics Corporation
205 West Harrison Street
Oak Park, Illinois 60304

Subject: Recognition of the Standard for Safety for Outlet Testers and Similar Indicating Devices,
UL 1436, as an American National Standard

Dear Mr. Kleronomos:

The purpose of this letter is to summarize our understanding of the results of the UL canvass of the subject standard as related to comments received from Ecos Electronics Corporation through the ANSI Public Review process. The record continues to reflect Ecos Electronics Corporation's negative position toward the adoption of UL 1436 as an American National Standard notwithstanding the earnest efforts exerted on the part of UL to reconcile differences on the topic of outlet circuit testing device principles. Based upon the Ecos comments received, it appears that the major objections rest upon the expressed opinion that (1) "the present standard is trade restrictive, (2) functionally deficient and (3) purposefully misleading to the end user," and (4) that the UL responses "totally ignored the engineering data we (Ecos) provided illustrating the inaccuracy of the listed devices" (letter 10/22/80).

To the first three assertions made, UL has responded in detail on several occasions demonstrating that the Standard is open to consideration of devices more complex than those presently covered and that the UL's Standards for Safety do, in fact, encourage innovation and advancement in the state of the art. Demonstrated as well, is the fact that the Standard provides reasonable and rational safety requirements that are

reasonable and rational safety requirements that are found necessary to cover the product as described in the Scope section. This attested to by evidence of not less than thirteen manufacturers' continued production of basic circuit testers that are in the market place and in compliance with the requirements of UL 1436. By Ecos' own acknowledgment (letter 12/19/79), the Standard does not define the purpose and functional limitations of the devices covered by the requirements, based on disclaimers, with performance described in accordance with user expectations.

With regard to the last item concerning test results provided by Ecos (letter 10/20/80), this repeated, in essence, only the general assertions already made to which an appropriate response (letter 9/11/80) had been previously offered. Detailing this, the tests were conducted with an appliance powered from one of the parallel receptacles during the exploration of the test circuit condition (open grounding wire). This situation is expected to defeat the monitoring of the circuit proper as noted by the No. 1 common instruction required by paragraph 20/5 of UL 1436 that all appliances shall be disconnected from the circuit during testing. We assume that, in the absence of comment, the open ground of the circuit being monitored was detected by all testers with no applicance connected.

* * * * * * * * * * * * * *

Although UL appreciates that Ecos has fully considered the proposal for the submittal of UL 1436 for recognition as an American National Standard, be assured that all Ecos expressed views have been understood and have been given full consideration. Even though Ecos promotes only the Ecos testers that inject test pulses from 35 mA to 30 amperes in magnitude, the UL position, that such test pulses are considered to constitute an unacceptable risk of shock hazard, must be understood and given consideration. Accordingly, approval of

the Standard for Safety for Outlet Testers and Similar Indicating Devices, UL 1436, as an American National Standard is desirable and will afford the many requirements of the Standard that are provided to reduce risk of electric shock, fire, or personal injury, the widest possible application on a voluntary basis made possible by ANSI recognition.

We thank you for your continued interest and trust that Ecos will also appreciate the ANSI position that UL is obligated to take in executing our committed program.

Very truly yours,

J.G. Kurowski
Standards Associate
Standards Department

Reviewed by:

L.M. Kline
Managing Engineer
Standards Department

JGK:lc
Encl.

cc: Chairman, Board of Standards Review
American National Standards Institute
1430 Broadway
New York, New York 10018

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

ECOS ELECTRONICS CORPORATION	)	
Plaintiff,	)	
v.	)	No. 81 C 3939
DANIEL WOODHEAD CO., et al.,	)	
Defendants.	)	

AFFIDAVIT

Chris C. Kleronomos, being first duly sworn upon his oath, states that he has personal knowledge of all of the following facts and would so testify if called as a witness:

1. I am president of Ecos Electronics Corporation, the plaintiff in this case;

2. I have personal knowledge of the performance qualities of most circuit testors which are generally commercial, available in the United States, including those manufactured by defendant Woodhead. In particular, I have knowledge of the performance qualities of circuit testors which the defendant Underwriters Laboratories, Inc. ("UL") has listed to the

UL Standard for Safety known as UL 1436;

3. I also have personal knowledge of the Ecos outlet circuit testor known as Accu-Test Model 7106;

4. The performance capabilities of virtually all circuit testors listed by UL to UL 1436 are limited, inadequate and defective in that these circuit testors:

(a) will give misleading indications if any appliances or equipment are plugged into the circuit being tested;

(b) will not indicate the quality of grounds;

(c) will not detect 2 additionally serious and hazardous wiring conditions; neutral-ground short and neutral-ground reversal;

(d) will not detect two hot wires in the circuit;

(e) will not detect a combination of defects.

5. The subject Ecos circuit testor, however, can in fact give correct readings if equipment or appliances are plugged into the circuit being tested; will indicate the quality of ground; will detect neutral-ground short; will detect neutral-ground reversal; will

detect two hot wires in the circuit; and will detect a combination of defects;

6. However, the ability of Ecos circuit testors to perform in the manner described is the result of technology which has been intentionally excluded from UL 1436. This technology serves to increase the manufacturing costs of the Ecos circuit testors above those of circuit testors which UL has listed to UL 1436. As a consequence Ecos must sell its circuit testors at a price in excess of the competitor's products, that is, testors listed to UL 1436;

7. The unreasonable, arbitrary, misleading and technically deficient nature of UL 1436 gives Ecos competitors a substantial and unfair competitive advantage in the sale of their circuit testors because it legitimizes and inbeds into the market misleading and unsafe technology solely for the purpose of maintaining the market dominance of the inferior devices;

8. In particular, competitors advertise their testors as UL listed and that they have satisfactory performance capabilities representative of the state of the art. Purchasers, relying upon the substantial

reputation that UL has developed as listing only effective products suitable for their intended use, believe that the performance inadequacies of the UL listed testors are immaterial and represent conditions unlikely to be encountered in normal product use. As a logical consequence, the purchaser concludes that the fact that the Ecos circuit testors can perform those functions, (thus avoiding those defects which the UL listed products have) is immaterial; and refuse to buy the Ecos tester because of its higher price;

9. Moreover, because most industrial and governmental purchasers frequently rely on the existence of a UL standard for safety to determine the level of performance which a particular class of products should possess, these purchasers' procedures and policies often dictate that they buy the lowest price article which satisfies those peformance requirements as established in the UL standard;

10. In other words, the technically deficient standards themselves legitimize inadequate and inferior products and in themselves constitute an impediment to

unfettered participation in the market for legitimate high quality products.

signed by Chris C. Kleronomos

SUBSCRIBED AND SWORN TO
before me this 25th day
of June, 1982.

Signed by notary public: unable to read name
Notary Public

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

ECOS ELECTRONICS CORPORATION	)	
Plaintiff,	)	
v.	)	No. 81 C 3939
DANIEL WOODHEAD CO., et al.,	)	
Defendants.	)	

SUPPLEMENT TO AFFIDAVIT OF CHRIS C. KLERONOMOS

Chris C. Kleronomos, being first duly sworn upon his oath, states that he has personal knowledge of all of the following facts and would so testify if called as a witness:

1. In late February, 1981, Richard Gloisten of UL told me that the statement in the February 3, 1981 UL letter (Bartholf Ex. E) that the amount of current ECOS testers injected constituted "an unacceptable risk of shock hazard" was not based upon UL's examination of ECOS' products; was therefore misleading and would be corrected in a supplemental letter. When that letter was not issued and in light of UL's previous negative

attitude about ECOS' attempt to change UL 1436, I concluded that UL was not acting in good faith; and that a submission of a listing application of further ECOS dealings with UL would be useless and serve no purpose. The failure to submit an application was not because ECOS had inadequate funds.

2. At no time did I or any ECOS representative discuss with UL the listing of ECOS circuit testers to a particular standard or category. In my March, 1981 meeting with Bartholf (pursuant to appointment made prior to the February 3, 1981 UL letter), we discussed only a preliminary UL examination of the ECOS tester. No decision to file a listing application had been made.

Signed by Chris C. Kleronomos

Subscribed and Sworn to
before me this 27th day of
June, 1981.

Signed by James P. Chapman
Notary Public

July 14, 1972

Mr. James Duffy
Underwriters' Laboratories, Inc.
207 East Ohio Street
Chicago, Illinois 60611

Dear Mr. Duffy:

Attached are 10 samples of our catalog number 1750C Circuit tester which we would appreciate your investigating its suitability for U.L. listing.

The device is a modified version of our 1750 Circuit Tester which was not found suitable for U.L. listing some time ago. We believe we have eliminated the conditions which caused it to be unacceptable previously.

The lamps are C2AR2 neon lamps with half watt 39K resistors. In our samples we soldered the resistors to the lamps, but in production these would be butt welded. The tolerance on the 39K resistors is ±10 per cent.

The rubber housing is molded from our standard Parracrii OZO rubber compound which has been the subject of previous U.L. investigation, and is the same material used on our standard plugs and connectors.

The yellow plastic parts are molded from G.E. Lexan Polycarbonate and are of the same material used on other Woodhead items presently U.L. listed, including our plugs and connectors.

My three color lenses on the face of the device are molded from Type 6/6 Nylon manufactured by DuPont.

If you required more samples or further information, or have any other questions, please feel free to contact us.

In our billing charges, please refer to Appropriate Number 939.

Sincerely,

DANIEL WOODHEAD COMPANY

Earl W. Roberts
Director of Engineering

EWR/aoc
Attachments

cc: Mr. S.D. Egan
Mr. J.R. Botsford
Mr. R.F. Stoll
Mr. Gary Johnson
Mr. Bob Wyatt

Subject 974
MELVILLE - January 31, 1973

Mr. C.R. Bartholf
Engineering Group Leader
Electrical Department
CHICAGO OFFICE

Mr. L.W. Waldron
Project Engineer
Electrical Department
CHICAGO OFFICE

Subject: Listing Report E-38751, dated 11-22-72 on Circuit Tester, Cat. No. 1750C, manufactured by Daniel Woodhead

1. I came across your report covering the Daniel Woodhead Cat. No. 1750C circuit tester, and could not find any record in our files of the evaluation concerning the efficacy (the ability of the tester to actually do the job expected of it), and the secondary effects (side effects such as shock and fire hazard which could be created during the use of, or resulting from the use of the tester).

2. We in the Melville Office have just completed an investigation of a similar tester, but one which is somewhat more elaborate. The result of the investigation was a letter report (E51570, dated 1-12-72) and the comments included a rather lengthy analysis of the efficacy, along with criticisms of the design becuase of the likelihood of shock hazard during the use of the tester. (A copy is attached for your convenience).

3. It appears to us that our three offices handling this new class of equipment may be currently applying different rules covering the listing of these products.

4. The nature of a safety tester is such that most users who are not informed otherwise might expect that the tester would detect and properly indicate all

hazardous conditions associated with the equipment under test.

5. We found that there were shortcomings in the efficacy of both the design that we investigated and the Daniel Woodhead design that you listed.

6. The nature of the shortcomings are such that a consumer can be lead to believe that a receptacle that he just tested is OK for use, or has a relatively minor fault which is not particularly hazardous, when actually the receptacle is faulty in one of quite a large selection of hazardous ways involving a connection between the GROUNDING contacts on the receptacle and the UNGROUNDED conductor.

7. The reason for this shortcoming is that both designs are only sensitive to DIFFERENCES in potential between the various contacts in the receptacle. There is no provision for a comparison of these voltages to a known reference ground potential.

8. Other shortcomings in efficacy, which unfortunately are not as easily overcome, include: Neither design is capable of sensing bridging and/or interchanging of the grounding and the grounded conductors. Neither design is capable of determining the current carrying capacity of the grounding circuit conductor, although the design we investigated in Melville has provision to measure the resistance of the power circuit and the grounding circuit (ungrounded conductor plus grounding conductor).

9. The design we investigated also incorporated an equipment testing feature, which also has serious deficiencies, such as the inability to detect faults existing between the appliance enclosure and a circuit part that is near the electrical mid-point.

10. Should these testers be listed?

11. On the one hand, we can take the position that no tester should be listed unless it does a good job of

testing. This would preclude the possibility of listing the major percentage of testers currently available, and would eliminate the possibility of listing a simple gadget that could easily be used in the field and probably be capable of detecting a very high percentage of the common faults.

12. On the other hand, we could accept designs for listing regardless of their ability to do a good job. This route would:

- permit the listing of very poor or fraudulent gadgets without penalty to the manufacturer, and

- promote very little incentive to the manufacturers to improve their designs, and

- jeopardize the image of UL among knowledgeable people in this field.

13. I propose that we allow for the listing of testers representing all the levels of efficacy, BUT it should be required that the consumer be adequately educated by means of marking and reading matter as to what the UL listing means. The limitations of each listed tester should be clearly stated in such a way that the consumer is advised, preferably prior to purchase of the tester.

14. It would be a relatively easy thing for UL engineers to determine which items, from a prescribed tabulation, a tester in question can and cannot do. We could require that this information be presented to the consumer in such a way that it can be easily understood by the layman.

15. In this way, the poorer designs, regardless of how fancy and impressive they may appear, will be presented to the consumer as they really are, and misrepresentations involving the UL listing mark will be avoided.

16. We plan to pursue this with the cooperation of Harry Mapplethorpe and Bill King so that we may develop requirements for this class of equipment.

17. We welcome your comments.

REVIWED BY:

A.W. SMOOT
Research Engineer
Electrical Department

WALTER SKUGGEVIG
Senior Project Engineer
Electrical Department

WS/jl
CC: Melville
Chicago
Santa Clara
NFF-MELVILLE-Attn: Mr. H.E. Reymers
NFF-MELVILLE-Attn: Mr. H. Mapplethorpe, Jr.
NFF-MELVILLE-Attn: Mr. H.W. King, Jr.
NFF-CHICAGO-Attn: Mr. R.W. Seelbach
NFF-CHICGAO-Attn: Mr. J.T. Duffy
NFF-SANTA CLARA-Attn: Mr. J.S. Capps
NFF-SANTA CLARA-Attn: Mr. Gene Bockmier
NFF-Writer

E38751 MELVILLE - May 4, 1973
Subject 498

Daniel Woodhead Company
3411 Woodhead Drive
Northbrook, Illinois 60062

Attention: Mr. Earl Roberts
Vice-President, Engineering

Subject: Outlet Circuit Testers

Dear Mr. Roberts

This letter will summarize discussions at our meeting of April 30, 1973 concerning neon-lamp type outlet circuit testers made by Daniel Woodhead, Co. and Harvey Hubbell, Inc. To the best of our knowledge, no other manufacturer has submitted testers of this type for our investigation. The following people attended:

Mr. John Goodsell	- Harvey Hubbell, Inc.
Mr. Ernest Hoffman	- Harvey Hubbell, Inc.
Mr. Earl Roberts	- Daniel Woodhead Co.
Mr. W.A. Farquhar	- UL
Mr. R.F. Gloisten	- UL
Mr. J.R. Romano	- UL
Mr. W. Skuggevig	- UL

The meeting was called to discuss a comprehensive report (distributed at the meeting and attached hereto) developed by UL that indicated two potential problems based on the normal function of these testers.

First, a small current (less than 2 milliamperes) is introduced into the grounding path for circuit detection purposes. Exposure to this current is not considered to be an electric shock hazard under normal circumstances. However, it has been shown that even minute ground currents can be hazardous to persons defined as electrically susceptible patients in Article 517 of the 1971 National Electrical Code.

It was agreed that the inherent hazard of even small ground circuit currents in electrically susceptible patient areas is sufficient to prohibit use in patient care areas and that the device bodies would be marked as follows:

> CAUTION - DO NOT USE IN PATIENT CARE AREAS - GROUND CURRENTS GENERATED BY THIS DEVICE MAY BE A SHOCK HAZARD TO ELECTRICALLY SUSCEPTIBLE PATEINTS.

The second problem relates to possible false readings under some circumstances. It was noted that many of the false readings are based on the connection of portable equipment on the branch circuit supplying the outlet under test.

To considerably reduce the possibility of erroneous readings, there should be a notice that all plug-in appliances should be unplugged from any other receptacles on the branch circuit supplying an outlet to be tested by the device.

The few remaining instances that could provide false readings can be considered negligible since multiple conditions of faulty wiring would be needed in a circuit having no ground continuity in order to produce a hazardous condition. However, it was agreed that explanatory instructions packaged with each individual unit would be provided to emphasize that the device is not a comprehensive diagnostic instrument, but rather a simple-circuited compact unit that will indicte almost all possible conditions of improper wiring. It was agreed that it will detect the most common faults and would probably indicate many faults that would otherwise go undetected for the lack of this device.

The instructions should also expand briefly on the chart of indications marked on the unit and should refer all faulty wiring indications to a qualified electrician for correction. This unit would also be marked "Read Instructions Before Using."

The present marking bands make use of the phrases "UNIT CHECKS" and "WON"T CHECK". It was agreed that these would be changed to "UNIT INDICATES" and "WON"T INDICATE" respectively.

We ask that you submit your proposed unit markings and instruction sheets to the Melville office for our consideration before ordering the final printing.

We would like to express our appreciation to you for your cooperation in this matter. If we may be of any help on this subject, please feel free to call us.

REVIEWED BY: Sincerely,

R.F. GLOISTE
Engineering Group Leader
Electrical Department
Department

J.R. ROMANO
Project Engineer
Electrical

cc: Melville - file
Chicago - file
Santa Clara - file
NFF-WRITER